



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-1002; Project Identifier AD-2021-00332-R]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain Sikorsky Aircraft Corporation Model S-76D helicopters. This proposed AD was prompted by reports that certain Thales global positioning system (GPS) satellite based augmentation system (SBAS) receivers provided, under certain conditions, erroneous outputs on aircraft positions. This proposed AD would require replacing affected GPS receivers and prohibit installing those GPS receivers. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft

Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). Operators may also log on to the Sikorsky 360 website at <https://www.sikorsky360.com>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1002; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** Nicholas Rediess, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7159; fax: (781) 238-7199; email: [nicholas.rediess@faa.gov](mailto:nicholas.rediess@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-1002; Project Identifier AD-2021-00332-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

#### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Nicholas Rediess, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7159; fax: (781) 238-7199; email: [nicholas.rediess@faa.gov](mailto:nicholas.rediess@faa.gov). Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### **Background**

The European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2019-0004, dated January 11, 2019, and corrected on January 17, 2019 (EASA AD 2019-0004), to correct an unsafe condition for Thales AVS France SAS (Thales), formerly Thales Avionics SAS, GPS/SBAS receivers, Topstar 200 LPV, part number (P/N) C17149HA01 and C17149JA02, using SBAS, which are known to be installed on, but not limited to, certain Model ATR 42-500 and ATR 72-212A aeroplanes and Sikorsky Model S-76D helicopters. EASA advises of reports indicating that Thales GPS SBAS receivers provided, under certain conditions, erroneous outputs on aircraft positions. EASA AD 2019-0004 requires actions to prevent compromise of the safety margins when the receiver is used for Localizer Performance with Vertical guidance (LPV) and/or RNP-AR (Required Navigation Performance – Authorization Required) operations. Following the issuance of EASA AD 2019-0004, the FAA issued AD 2020-08-02, Amendment 39-21108 (85 FR 20586, April 14, 2020), to address the unsafe condition on these products.

After the issuance of EASA AD 2019-0004, EASA issued related EASA AD

2021-0013, dated January 13, 2021 (EASA AD 2021-0013), in response to a software update that was developed to ensure correct navigational performance of certain Thales GPS SBAS receivers installed on ATR-GIE Avions de Transport Régional, formerly EADS ATR - Alenia, Aerospatiale Matra ATR - ALENIA, Aerospatiale - Alenia, Aerospatiale – Aeritalia, Model ATR 42-500 and ATR 72-212A aeroplanes.

This proposed AD would require replacing affected GPS TopStar 200 LPV receivers installed on Sikorsky Aircraft Corporation Model S-76D helicopters. The FAA is proposing this AD to address erroneous aircraft position outputs from the GPS SBAS receivers, which could result in controlled flight into terrain, and subsequent loss of control of the helicopter.

#### **FAA’s Determination**

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

#### **Related Service Information Under 1 CFR Part 51**

The FAA reviewed Sikorsky S-76D Helicopter Service Bulletin SB 76-017, Basic Issue, dated May 11, 2021 (SB 76-017). SB 76-017 specifies procedures for removing, updating, and installing GPS TopStar 200 LPV receivers. SB 76-017 also provides instructions for sending the GPS receiver(s) to Thales Authorized Repair Stations for the software update.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **Proposed AD Requirements in this NPRM**

This proposed AD would require replacing each affected GPS receiver and prohibit installing an affected GPS receiver on any helicopter.

#### **Differences Between this Proposed AD and the Service Information**

SB 76-017 requires returning the GPS receiver(s) to Thales Authorized Repair Stations for the software update, while this proposed AD would require replacing the

GPS receiver(s) instead.

### **Costs of Compliance**

The FAA estimates that this proposed AD would affect 22 helicopters of U.S. Registry and that operators may incur the following costs in order to comply with this proposed AD. Labor costs are estimated at \$85 per work-hour.

Replacing a GPS receiver would take about 3 work-hours and parts would cost about \$7,400, for an estimated cost of \$7,655 per GPS receiver and \$336,820 for the U.S. fleet.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a

substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**Sikorsky Aircraft Corporation:** Docket No. FAA-2021-1002; Project Identifier AD-2021-00332-R.

#### **(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD affects AD 2020-08-02, Amendment 39-21108 (85 FR 20586, April 14, 2020) (AD 2020-08-02).

#### **(c) Applicability**

This AD applies to Sikorsky Aircraft Corporation Model S-76D helicopters, certificated in any category, with Thales Global Positioning System (GPS) TopStar 200 LPV receiver part number (P/N) C17149HA01 installed.

#### **(d) Subject**

Joint Aircraft System Component (JASC) Code: 3457, Global Positioning System.

#### **(e) Unsafe Condition**

This AD was prompted by reports that certain Thales GPS satellite based augmentation system (SBAS) receivers provided, under certain conditions, erroneous

outputs on aircraft positions. The unsafe condition, if not addressed, could result in controlled flight into terrain and loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) Within 130 hours time-in-service after the effective date of this AD, replace each affected GPS receiver identified in paragraph (c) of this AD with GPS receiver P/N C17149RA01 in accordance with the Accomplishment Instructions, paragraphs A., C., and D., of Sikorsky S-76D Helicopter Service Bulletin SB 76-017, Basic Issue, dated May 11, 2021.

(2) As of the effective date of this AD, do not install a GPS receiver identified in paragraph (c) of this AD on any helicopter.

(3) Accomplishing paragraph (g)(1) of this AD terminates the requirements of AD 2020-08-02.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Boston ACO Branch, Compliance & Airworthiness Division, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Nicholas Rediess, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7159; fax: (781) 238-7199; email: [nicholas.rediess@faa.gov](mailto:nicholas.rediess@faa.gov).

(2) For service information identified in this AD, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft

Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). Operators may also log on to the Sikorsky 360 website at <https://www.sikorsky360.com>. You may view this referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Issued on November 8, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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